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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/651,062	08/29/2003	Daigo Aoki	123851	8988
25944	7590	02/21/2007		
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			EXAMINER KUGEL, TIMOTHY J	
			ART UNIT	PAPER NUMBER
			1712	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.		Applicant(s)	
	10/651,062		AOKI ET AL.	
	Examiner		Art Unit	
	Timothy J. Kugel		1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 50,52-56,63 and 65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 50,52-56,63 and 65 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/789,748.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. Claims 50, 52-56, 63 and 65 are pending as amended on 5 January 2007, claims 1-49, 51, 55-62, 64, 66 and 67 being cancelled.

2. The text of those sections of Title 35, US Code not included in this action can be found in a prior Office action.

Response to Amendment

3. Applicant's amendment filed 5 January 2007, with respect to canceling the unsupported new matter in claims 50 and 63 has been fully considered and overcomes the following:

The rejection of claims 50, 52-56, 63 and 65 under 35 USC 112, first paragraph, as failing to comply with the written description requirement has been withdrawn.

Claim Rejections - 35 USC § 103

4. Claims 50-55, 64 and 65 stand rejected under 35 USC 103(a) as being unpatentable over US Patent 6,294,313 (Kobayashi hereinafter).

Kobayashi teach a photoconductive (Column 1 Lines 39-56) wettability-changing layer not more than 10 μm thick (Column 31 Lines 54-58) comprising a photocatalyst—including titanium dioxide (Column 13 Lines 33-40), an organosiloxane or fluoroalkyl polymer binder (Column 14 Line 12 – Column 18 Line 15), and a charge facilitator of metal salt as claimed (Column 18 Line 65 – Column 19 Line 10).

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Kobayashi does not disclose expressly a layer thickness of between 100 and 1,000 angstroms; however, the claimed range is *prima facie* obvious since the thickness taught by Kobayashi fully embraces the claimed range.

Further, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to reduce the thickness of the layer, for the purpose of making the intended future device smaller, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering optimum or workable ranges involves only ordinary skill in the art (*In re Aller*, 105 USPQ 233).

Response to Arguments

5. Applicant's arguments filed 5 January 2007 have been fully considered but they are not persuasive.
6. Applicant argues that Kobayashi fails to teach a layer with a claimed thickness of 100 to 1,000 angstroms asserting that Kobayashi teaches a layer orders of magnitude thicker and in the claimed invention that a thickness of 100 angstroms or more provides wettability properties while a thickness of 1,000 angstroms or less provides good charge transfer properties; However, first, Kobayashi teaches a layer having a thickness ***not more than*** 10 μm thick (Column 31 Lines 54-58 emphasis added) meaning that Kobayashi's thickness ranges from 0 to 10 μm and while the upper limit of Kobayashi may be orders of magnitude greater than the claimed range's upper limit, Kobayashi's range encompasses the instantly claimed range in its entirety; Second, in response to applicant's argument that the references fail to show certain features of applicant's

invention, it is noted that the features upon which applicant relies (i.e., wettability properties and good charge transfer properties) are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993); Finally, applicant appears to be arguing that there are unexpected results within the instantly claimed thickness range not found in Kobayashi, however there is no data presented comparing the claimed invention to the closest prior art—for example the exemplified layers of Kobayashi.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

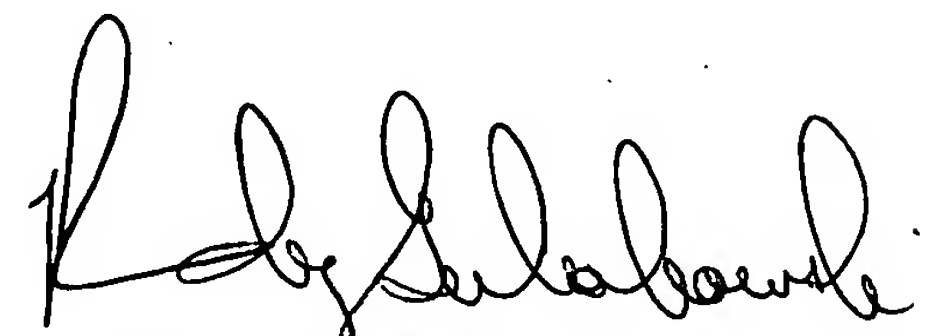
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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Kugel whose telephone number is (571) 272-1460. The examiner can normally be reached 6:00 AM – 4:30 PM Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TJK
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RANDY GULAROWSKI
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TECHNOLOGY CENTER 1700